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Erratum: "Azide–water intermolecular coupling measured by two-color two-dimensional infrared spectroscopy" [J. Chem. Phys. 136, 224503 (2012)]

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After publication of Ref. 1, it has been brought to our attention that Hochstrasser and co-workers have studied essentially the same molecular system (i.e., N_3^- in H_2O instead of D_2O) by two-color 2D IR spectroscopy before us.[2] A cross peak is also observed, which less likely is due to population transfer because of the even larger energy gap from the N_3^- asymmetric stretch vibration to the H_2O band. We had based our conclusion, that population transfer is the dominant coupling mechanism, mostly on the large frequency separation of the 0-1 and the 1-2 transition in the 2D IR spectra, which reflects the large anharmonicity of the OD vibrator itself.[1] The 1-2 transition is not shown in Ref. 2, so we cannot decide whether an alternative coupling mechanism might be responsible for the cross-peak between N_3^- in H_2O. Nonetheless, Ref. 2 found a tilt in the cross-peak, evidencing a correlation in the vibrational frequencies the of N_3^- and the H_2O vibrations, which is another consequence of the coupling to azide-bound water.

[1]J. Borek, F. Perakis, F. Kläsi, S. Garrett-Roe, and P. Hamm, J. Chem. Phys. **136**, 224503 (2012).
[2]C.-H. Kuo, D. Y. Vorobyev, J. Chen, and R. M. Hochstrasser, J. Phys. Chem. B **111**, 14028 (2007).

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